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September 24, 2004

Via Electronic Mail Delivery

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
12th Street Lobby, TW-A325
Washington, D.C. 20554

Re: Written Ex Parte Communication
Establishment of an Interference Temperature Metric to Quantify
and Manage Interference
ET Docket No. 03-237

Dear Ms. Dortch:

In its comments on the Interference Temperature ("ITemp") proceeding, Sprint Corporation ("Sprint") demonstrated numerous problems with the ITemp concept. In support, Sprint submitted a 116-page technical analysis prepared by Drs. Padgett and Ziegler of Telcordia Technologies, Inc.¹ Among other things, the Telcordia analysis documented that the ITemp concept is spectrally inefficient, because the loss of licensed spectrum capacity would exceed the limited spectrum capacity that unlicensed devices would gain. The Telcordia analysis further demonstrated that implementation of the ITemp concept would be particularly devastating for licensees that utilize CDMA, an advanced and highly efficient air interface.

No party has challenged the technical findings in the Telcordia analysis. However, Shared Spectrum Company ("Shared Spectrum") asserted in its reply comments that similar demonstrations made by other parties, which "advance the argument that even a small increase in noise temperature would drastically curtail the coverage of the CDMA network" are "spurious" and "their resulting conclusion[s] are unsupported."² Shared Spectrum attached as Appendix A to its reply comments a 16-page document that purports to analyze the effect of the ITemp concept on CDMA system capacity.³

¹ See Dr. Jay E. Padgett and Dr. Robert A. Ziegler, Telcordia Technologies, Inc., Applied Research, Wireless Systems and Networks, *Analysis of the Interference Temperature Concept to Support Spectrum Sharing Between Licensed Services and Unlicensed Devices* (April 5, 2004) ("Telcordia Report"), appended as Attachment A to Sprint's Comments, ET Docket No. 03-237 (April 5, 2004).

² Shared Spectrum Reply Comments, ET Docket No. 03-237, at 3 (May 5, 2004).

³ See Shared Spectrum, *The Effect of Interference-Temperature-Based Sharing on CDMA System Capacity*, ET Docket No. 03-237 (April 5, 2004), appended as Appendix A to Shared Spectrum's Reply Comments.

Because Shared Spectrum's comments are directed at CDMA technology, utilized by Sprint, and because some at the Commission continue to express support for the ITemp concept despite the state of the record, Sprint attaches herewith a Telcordia technical analysis of Shared Spectrum's Appendix A. The attached Telcordia analysis documents that Shared Spectrum's Appendix A is flawed and reveals a fundamental lack of understanding of basic link budget analysis and of CDMA system design. Specifically:

- Shared Spectrum's coverage analysis does not properly account for transmitted power levels, the required level of received signal with respect to noise, or path loss;
- Its outage calculations are unexplained and provide no rational basis for criticism of Qualcomm's coverage analysis; and
- Its capacity analysis and its claim that increasing the noise by 15 dB above the noise level would not impact CDMA capacity are flawed because Shared Spectrum fails to account for the severe resultant impact upon CDMA coverage.

Based on the attached Telcordia analysis and the record in this proceeding, Sprint submits that the Commission should afford no weight to Shared Spectrum's opinions concerning the ITemp concept and its impact on CDMA wireless networks. Sprint again urges the Commission to declare that it will not implement the ITemp concepts in bands utilized by, or allocated to, mobile or broadband radio services.

Pursuant to Section 1.1206(b) of the Commission's rules, a copy of this letter is being electronically filed with the Secretary's office for filing in ET Docket No. 03-237.

Respectfully submitted,

/s/ Luisa L. Lancetti

Luisa L. Lancetti

Vice President, Wireless Regulatory Affairs

cc: Bryan Tramont
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Paul Margie
Sam Feder
Barry Ohlson
John Muleta
Ed Thomas
Bruce Franca

Attachment: Dr. Jay E. Padgett, Telcordia Technologies, Inc., Applied Research, Wireless Systems and Networks, *Response to Appendix A of Shared Spectrum's Reply Comments* (September 22, 2004).